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FEDERAL - STATE COOPERATIVE
SNOW SURVEYS AND IRRIGATION WATER FORECASTS
for
**Montana and Northern Wyoming
Upper Missouri, Upper Columbia and
Yellowstone Rivers**

By
Division of Irrigation, Soil Conservation Service
United States Department of Agriculture
and
Montana Agricultural Experiment Station

In cooperation with the U. S. Forest Service, U. S. Geological Survey, National Park Service, U. S. Bureau of Reclamation, State Engineers of Montana and Wyoming and other Federal, State and local organizations.

As of

MAR. 1, 1952

FEDERAL-STATE COOPERATIVE SNOW SURVEYS

AND

IRRIGATION WATER FORECASTS

FOR

MONTANA and NORTHERN WYOMING

Upper Missouri and Upper Columbia River
Basins

Report Prepared
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IRRIGATION WATER SUPPLY OUTLOOK
FOR SEASON 1952
AS OF MARCH 1, 1952

* Snow Surveys conducted over the Upper Missouri and *
* Upper Columbia River Basins, on or about March 1, 1952, *
* indicate a GOOD water supply for irrigation during the *
* coming season. The Upper Columbia Basin is still consider- *
* ably above average. With average accumulation of snow *
* during March, both basins should be well above average by *
* April 1. *
* *
* Once again, the possibility of a flood hazard exists *
* on the Columbia, depending entirely upon the temperature *
**and precipitation distribution during the snowmelt season. *
* There is more water stored in the snowpack now than on *
* April 1, 1948. *
* *
* The Wind River on the Lower Yellowstone in Wyoming *
* is below average as reported in February. The Popo Agie *
* River is above average. *
* *
* Reservoir storage throughout Montana and Northern *
* Wyoming is satisfactory for this time of year. However, *
* reservoirs on the Wind River and the Sun River in Montana *
* should be watched for shortages of water supply. *

JEFFERSON RIVER: March 1 snow surveys on the Jefferson River indicate a GOOD water supply for this season. In general, not as good as last year but slightly better than average for the past five years. Some areas will have to depend on summer rains to some extent. The Red Rock Creek area is in excellent shape. The Ruby River Basin should yield a good supply with a fine cover of low elevation snow. The Horse Prairie and Big Hole areas are lower than the other two, but still have a good supply of water in storage in the snowpack.

MADISON RIVER: Snow surveys at Hebgen, West Yellowstone and 21-Mile courses indicate an excellent water supply to come from this stream. Yellowstone Park snow survey courses indicate an abundant supply from that area.

GALLATIN RIVER: The four snow survey courses reflecting the spring runoff from this basin show extremely high water contents. Higher than last year, and higher than the past five years. The usual late summer shortage will be felt because of lack of storage up stream.

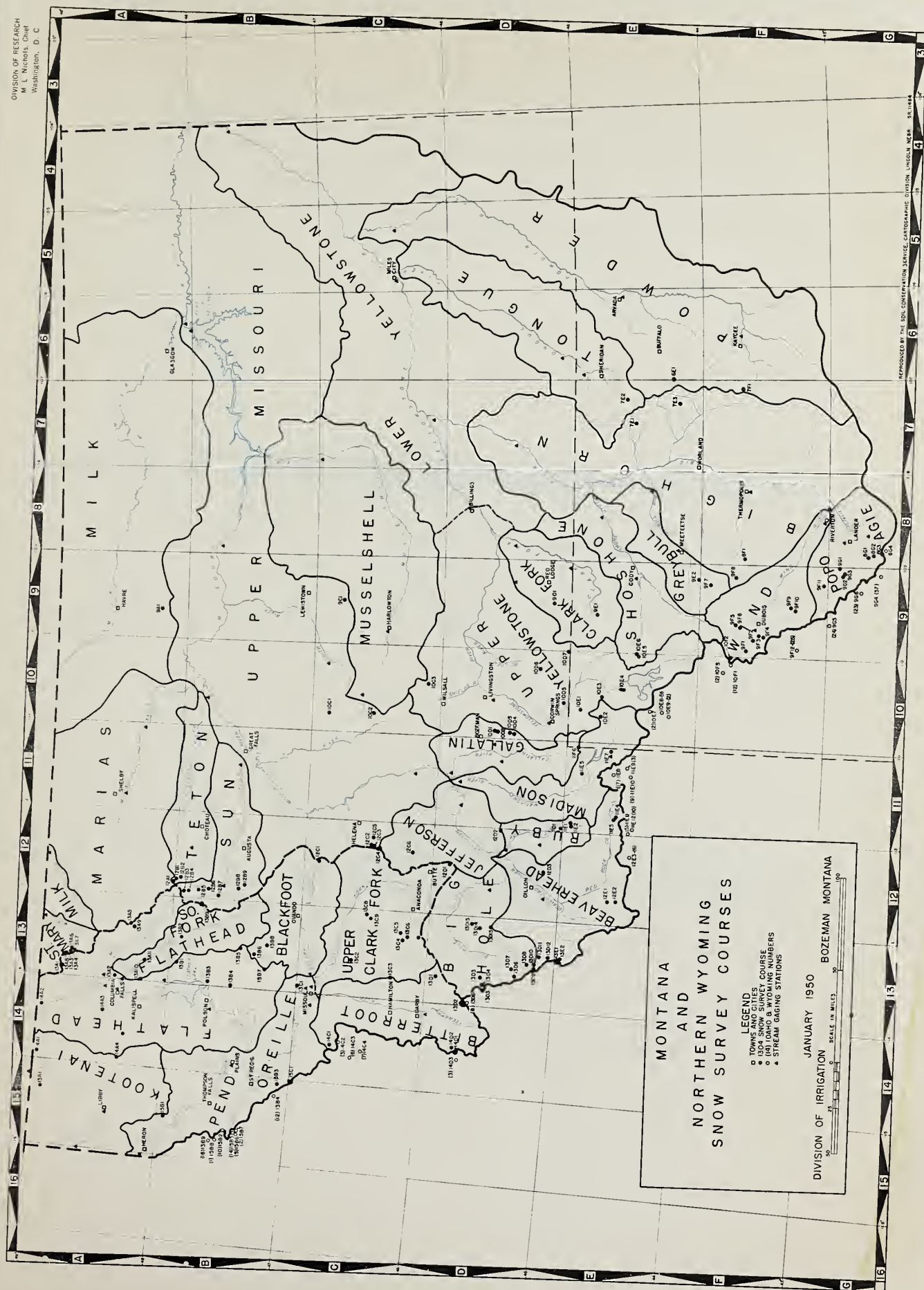
MISSOURI MAIN STEM: The main stem of the Missouri below Three Forks will carry an excellent supply of water. Snow surveys in the headwaters are good, and those measurements on tributaries downstream are high, except the Sun and Teton. The Big Belt and Snowie Mountains have a fine snowpack this season--considerably above average.

SUN AND TETON RIVERS: Snow surveys made on these two stream basins, on or about the first of March, indicate a shortage of water content below the average, or about 90% average on the Sun, and 80% average on the Teton. Snow accumulations during March should be watched and storage precautions should be taken to insure an ample supply of irrigation water during the summer months.

UPPER YELLOWSTONE RIVER: Snow surveys made through Yellowstone Park at Canyon, Cook City, Lake and Mammoth indicate an excellent water supply stored in the snowpack in this area. The courses average about 114.7% average--all higher than the past 4 years. The Shields River Basin has a good supply of snow water to come and a good supply of low elevation snow for this time of year.

LOWER YELLOWSTONE RIVER (WYOMING): The PopoAgie River at the extreme southern portion of the basin has an excellent supply of snow water averaging about 150% average. The Wind River, just to the north and west of Riverton, is short of water this season. This basin did not recover from the shortage reported in February and snow accumulations should be watched rather closely during March. This basin is about 79% average. Preliminary plans should be made to increase storage shortly after April 1, if precipitation is short during March. The Owl Creek and Grey Bull Creek areas are a little short this season, as indicated by the March 1 snow surveys. Owl Creek runs about 90% average and Grey Bull Creek about 97% average, from the short records available. The Shoshone River, above Buffalo Bill, is in good shape with about 120% average indicated by the two snow survey courses. On the Tongue and Powder Rivers, only a few courses are available for comparison, and from these data it would appear that there is a good water supply to come from these two basins; about 105% average.

COLUMBIA RIVER BASIN: (in Montana) The Flathead River Basin has a good supply of snow for this coming season as indicated by the March 1 snow surveys. Although somewhat spotted in its' percentages above average, the snowpack in general is about 106% average. This is not as large as last season. The Clark Fork River is a little higher in percent of average for the first of March, running about 114.0% average. Only one snow survey course was measured on the Bitterroot River at Gibbons Pass, which showed 111.1% average.



INDEX TO MONTANA & NORTHERN WYOMING SNOW COURSES

Location										Location																			
Drainage Basin and Course Name		Montana Number	Sec. Elev.	Lat.	Twp.	Range	Long.	Record Began	Measuring Dates ^a	Measured By: b	Drainage Basin and Course Name		Montana Number	Sec. Elev.	Lat.	Twp.	Range	Long.	Record Began	Measuring Dates ^a	Measured By: b								
MISSOURI RIVER DRAINAGE										MISSOURI RIVER DRAINAGE CONT.																			
(ROOF-BEAVERTHEAD)										BIG HORN RIVER Wyoming																			
Lakeriv Ridge	1153	7400	27	14S	24			1948	3,4,5	9	Beavers Mill	998	8900	6	43N	102W			1948	2,3,4,5	12								
Lakeriv Canyon	1154	6930	26	14S	24			1948	3,4,5	9	Owl Creek	871	8700	36	43N	101W			1948	2,3,4,5	12								
Limekin	1232	6950	5	15S	9W			1948	3,4	1	Tenleep R.S.	733	8300	30	49N	86W			1935	4,5	1								
White Pine Ridge	1251	8850	18	14S	9W			1948	3,4	1	Timber Creek	922	8800	25	47N	103W			1948	4,5	12								
(HORSE PRAIRIE)										Ranger Creek										751	8800	32	53N	88W	1935	4,5	1		
										Wood River										977	8000	28	46N	103W	1939	2,3,4,5	12		
										(SHOSHONE RIVER) Wyoming																			
										East Entrance										1056	7000	17	52N	109W	1948	1,2,3,4,5	5		
										Sylvan Pass										1055	7100	12	52N	110W	1936	1,2,3,4,5	5		
										(TONGUE RIVER) Wyoming																			
										Big Goose										752	7700	4	53N	86W	1935	2,3,4,5	1		
										Burgess Ranger Sta.										754	7900	36	56N	89W	1950	2,3,4,5	12		
										Dome Lake										755	8800	11	53N	87W	1950	2,3,4,5	12		
										Lodespole										921	8210	32	56N	106W	1940	4,5	1		
										(POWDER RIVER)																			
										North Powder										758	8500	5	47N	85W	1951	2,3,4,5	12		
										Muddy Pass										757	9700	11	48N	85W	1950	2,3,4,5	1		
										Soldier Park										759	8700	36	51N	85W	1950	2,3,4,5	1		
										Sour Dough										621	8500	17	49N	84W	1936	2,3,4,5	1		
										Red Fork										751	7000	18	43N	85W	1936	2,3,4,5	12		
																				</									

STORAGE IN RESERVOIRS OF MONTANA, MARCH 1, 1952

MISSOURI RIVER BASIN

Reservoir Volumes in 10,000's acre feet

RESERVOIR	Location on or Diversion from	Usable Capacity	Contents This Yr. Mar. 1 1952	Contents Last Yr. Mar. 1 1951	Mar. 1 10-Year Average 1941-1950
Lake Sewall	Missouri	37.8	18.9	19.3	30.3
Hauser Lake	Missouri	62.5	46.3	57.2	49.5
Ft. Peck Res.	Missouri	19,000.0	11,690.0	12,430.0	929.6
Ruby Res.	Ruby	38.8	--		
Willow Lake Res.	Willow Cr.	17.8			
Hebgen Lake	Madison River	345.0	264.4	230.8	237.5
Ennis Lake	Madison River	41.0	35.1	35.2	35.0
Gibson Res.	N. Fk. Sun River	105.0	66.3	81.4	59.8
Willow Creek	N. Fk. Sun-Willow Cr.	32.3	24.0	23.8	12.2
Pishkun Res.	N. Fk. Sun River	32.0	23.3	18.9	17.4
Lower Two Medicine L.	Two Medicine River	14.0			
Four Horns Res.	Badger Creek	20.0			
Swift Reservoir	Birch Creek	30.0	23.1	28.1	22.2
Lake Francis Res.	Birch Creek	112.0	93.6	93.5	80.8
Ackley Lake	Judith River	5.8			
Durand Res.	N. Fk. Musselshell	7.0			
Dead Man Basin	Musselshell River	52.5			
Martinsdale Res.	So. Fk. Musselshell	23.1			
Fresno Res.	Milk River	127.2	90.3	65.9	44.4
Nelson Res.	Milk River	66.8	38.5	15.7	29.2
Mystic Lake	W. Rosebud Creek	20.8	8.2	8.7	8.8
Cooney Res.	Red Lodge Creek	27.5			
Tongue Res.	Tongue River	73.9			
Sherburne Lake Res.	Swiftcurrent Creek	66.1	18.3	8.4	9.9

YELLOWSTONE RIVER BASIN (Wyoming)

Buffalo Bill	Shoshone	456.6	237.0	295.6	269.9
Boysen Res.	Wind River	819.8	122.0		
Pilot Butte	Wind River	30.1	9.3	8.4	14.3
Bull Lake	Wind River	155.0	66.6	89.5	54.4

COLUMBIA RIVER BASIN

Georgetown Lake	Flint Creek	31.0	23.4	23.0	23.2
E. Fk. Rock Cr. Res.	E. Fk. Rock Creek	16.0			
Nevada Creek Res.	Nevada Creek	12.6			
W. Fk. Bitterroot Res.	W. Fk. Bitterroot	31.7			
Como Lake	Rock Creek	34.8	12.6	19.9	11.9
Hungry Horse Res.	So. Fk. Flathead	3,000.0	67.8		
Lower Jocko Lake	Jocko Cr.	7.6			
Flathead Lake (Sommers)	Flathead River	1,791.0	730.1	920.7	696.0
Little Bitterroot	Little Bitterroot*	36.1	36.1	34.8	11.6
Dry Fk. Res.	Dry Fork Creek*	6.7	4.1	4.4	1.9
Mission Valley Res.	Mission Valley(Flathead)	98.6	34.6	49.8	35.3

*Comprise two reservoirs on Dry Creek

*Comprise two reservoirs on Little Bitterroot River

**Comprise eight small reservoirs on Mission Valley Project Indian Reclamation Service

PRECIPITATION DATA FOR MARCH 1, 1952
MONTANA

Station	Elev- ation	1951			1952		1952 Dept. from Normal	Accumulated Precipitation		*	
		Precipitation			Jan.	Feb.		1951-52	Normal		Departure
		Oct.	Nov.	Dec.							
<u>WEST OF DIVIDE</u>											
Fortine	3000	3.63	.92	2.49	1.39	0.79	-.33	9.22	6.84	2.38	
Butte (Airport)	5533	0.96	.40	1.18	.29	0.85	.41	3.68	2.49	.19	
Phillipsburg	5280	.63	.66	2.12	.26	0.98	.21	4.65	4.05	.60	
Hamilton	3529	1.14	.77	1.41	.31	0.94	.19	4.57	3.97	.60	
West Glacier	3154	4.92	2.25	4.25	2.51	1.29	-.84	15.22	13.45	1.77	
Summit (Marías)	5213	6.20	3.20	4.65	4.35	2.15	-.42	20.55	14.26	6.29	
Ovando 1 SW	4101	1.57	1.37	2.08	.71	0.93	-.42	6.66	7.45	-.79	
Trout Creek	2485	6.50	3.11	4.74	3.81	2.30	-.55	20.46	16.72	3.74	
Thompson Falls	2435	3.29	2.16	1.89	.82	1.17	-.22	9.33	9.64	-.31	
Average (8)		3.15	1.74	2.79	1.63	1.27	-.22	10.47	8.76	+1.71	
<u>CENTRAL DIVISION</u>											
Babb	4300	2.91	.24	1.49	.25	0.89	.07	5.78	4.87	.91	
Havre	2488	1.00	.25	1.02	.42	0.81	.31	3.50	3.12	.38	
Great Falls (Airport)	3664	1.72	.41	1.06	.34	1.63	1.06	5.16	3.37	1.79	
Helena (Airport)	3893	.79	.31	1.08	.15	0.56	.17	2.89	2.48	.41	
Lewistown (Airport)	4132	1.68	.67	1.50	.39	0.78	.01	5.02	2.27	2.75	
Livingston	4485	3.74	.48	1.05	1.08	1.00	.46	7.00	3.65	3.35	
Wisdom	6058	1.74	.57	1.50	.19	1.06	.53	4.79	3.75	1.04	
West Yellowstone	6669	3.66	1.66	3.83	3.34	1.75	-	14.24	10.50	3.74	
Mystic Lake	6558	3.58	.75	1.66	1.22	1.30	.22	8.51	6.68	1.83	
Average (9)		2.21	.59	1.53	.85	1.09	.24	6.32	4.52	+1.80	
<u>EASTERN DIVISION</u>											
Malta	2255	.92	.03	.46	.41	0.69	.32	2.51	2.44	.07	
Ft. Peck	2180	.53	.27	.55	.17	1.06	.79	2.58	2.15	.43	
Medicine Lake	1962	.49	.07	.27	.22	0.48	.16	1.53	1.99	.46	
Circle	2428	.73	.22	-	-	-	-	-	-	-	
Billings #2	3139	.86	.16	.55	.19	0.48	.06	2.24	3.60	-1.36	
Miles City	2392	.69	.46	1.14	.42	0.92	.43	3.63	3.25	.38	
Glendive	2076	.63	.38	.60	.25	1.23	.81	3.09	2.75	.34	
Broadus	3026	1.78	.64	.79	.14	0.63	.22	3.98	3.04	.94	
Average (8)		.83	.28	.62	.27	.78	.36	2.79	2.74	+0.05	

*Note: Figures without a minus sign (-) are plus

PRECIPITATION DATA FOR MARCH 1, 1952
NORTHERN WYOMING

Station	Elev- ation	1951			1952		1952 Dept. from Normal	Accumulated Precipitation			
		Precipitation			Jan.	Feb.		1951-52	Normal		Departure
		Oct.	Nov.	Dec.							
<u>BIG HORN RIVER BASIN</u>											
Cody	4984	1.14	0.39	0.30	0.30	0.35	+0.04	2.48	2.16	+0.32	
Lovell	3825	1.09	0.12	0.39	0.22	0.17	-0.10	1.99	1.88	+0.11	
Worland	4061	0.31	0.09	0.10	0.41	0.19	-0.06	1.10	1.93	-0.83	
Sunshine 4 SW	6930	1.82	0.16	0.18	0.07						
Thermopolis	4336	0.93	0.28	0.29	0.13	1.13	+0.75	2.76	2.95	-0.19	
Riverton	4954	0.67	0.09	0.25	0.05	0.47	+0.24	1.53	2.24	-0.71	
Dubois	6917	0.24	0.12	0.53	0.35	0.38	-0.04	1.62	2.47	-0.85	
Average		<u>0.89</u>	<u>0.18</u>	<u>0.29</u>	<u>0.24</u>	<u>0.45</u>	<u>+0.09</u>	<u>1.91</u>	<u>2.27</u>	<u>-0.36</u>	
<u>TONGUE RIVER BASIN</u>											
Sheridan	4021	1.37	0.15	0.68	0.15	1.39	+0.69	3.74	3.89	-0.15	
<u>POWDER RIVER BASIN</u>											
Arvada	3680	0.58	0.18	0.45	0.05	0.50	+0.17	1.76	2.61	-0.85	
Metz Ranch	5280	0.95	0.11	0.19	0.12	0.30	-0.13	1.67	2.63	-0.96	
Gillette	4542	1.06	0.50	0.40	0.40	0.50	+0.05	2.86	3.43	-0.57	
Nine Mile Creek	5000	0.49	0.35	0.18	0.30	0.77	+0.47	2.09	2.50	-0.41	
Mid West	4850	<u>0.41</u>	<u>0.16</u>	<u>0.78</u>	<u>0.03</u>	<u>0.66</u>	<u>+0.16</u>	<u>2.04</u>	<u>3.31</u>	<u>-1.27</u>	
Average		<u>0.70</u>	<u>0.26</u>	<u>0.40</u>	<u>0.15</u>	<u>0.46</u>	<u>+0.05</u>	<u>2.08</u>	<u>2.90</u>	<u>-0.82</u>	

* Note: Figures without a minus sign (-) are plus

MONTANA SNOW SURVEYS MARCH 1, 1952

MISSOURI BASIN DRAINAGE BASIN AND SNOW COURSE **	No.	Elev.	Date of Survey 1952	Snow Depth (In.) 1952	Mar. 1 1952	Water Content (Inches)			Average Data		Average on Apr. 1		Year
						Past Records		1949	Mar. 1		Apr. 1		
						1951	1950		Avg.	%Avg.	Avg.	%Avg.	
JEFFERSON RIVER (Rock-Beaverhead)													
	11E3	7400	Feb. 28	55	13.4	7.3	9.8	9.2	8.0	168	10.4	129	5
	11E4	6930	Feb. 28	63	14.6	9.6	14.7	12.8	10.6	138	11.4	128	5
	11E2	6950	Feb. 12	10	2.4	0.8	1.0	2.6	1.3				5
	11E1	8850	Feb. 12	27	6.6	3.0	5.0	6.0	4.7	185	4.5		5
	11E12	6200	Feb. 29	53	15.1	7.4	7.9	9.7	9.6	157	10.7	141	16
	12E3	6800											
	11E11	6700											
(Horse Prairie)													
	13D10	7600	Feb. 16	41	11.0	13.2	8.5	13.9	10.6	104	13.1	84	5
	13D9	8100	Feb. 16	48	13.0	17.8	10.4	15.6	13.4	97	16.9	77	5
	13E1	7400	Feb. 14	38	11.0	9.4	5.4	7.9	8.0	138	11.2	99	5
	13D12	6650	Feb. 13	22	4.6	6.6	3.0	4.8	4.2	110	4.8	96	5
	13E2	7090	Feb. 14	36	8.1	8.4	4.3	7.0	6.8	119	9.8	83	5
	13D11	6500	Feb. 13	34	8.2	9.8	5.4	8.8	7.0	117	9.8	84	5
(Big Hole)													
	13D3	7440	Feb. 17	58	17.6	19.0	12.2	20.0	15.9	111	19.7	89	5
	13D4	6900	Feb. 17	52	13.6	18.0	11.5	17.9	13.8	98	16.2	84	5
	13D5	6700	Feb. 17	32	7.9	8.1	7.6	9.8	7.7	103	10.2	79	5
	13D8	7340	Feb. 16	40	10.4	12.4	7.7	13.6	10.0	104	12.1	85	5
	13D6	7300	Feb. 15	38	10.8	13.4	8.2	14.0	10.5	103	13.2	82	5
	13D7	6720	Feb. 15	31	7.6	8.1	5.8	9.4	7.4	103	8.4	90	8
(Wise River)													
	13D14	7000	Feb. 19	32	8.3	8.4	6.8	8.4	7.6	109	9.0	92	5
	13D15	8450	Feb. 27	38	9.5	10.4	7.1	12.2	7.6	125	9.2	103	18
	13D13	6300	Feb. 19	25	6.0	5.4	4.2	5.7	4.9	122	5.8	103	5
(Ruby River)													
	11E2	5900	Feb. 23	41	11.4	6.0	8.6	8.2	7.2	159	9.9	116	5
	11E1	8400	Feb. 23	43	13.0	5.9	8.9	9.2	7.5	174	10.6	123	5
	12D3	6950											
	12D2	6900	Feb. 22	44	11.2	8.1	5.0	11.0	8.1	138	11.5	98	5
	11D1	6125	Feb. 23	13	3.3	0.	0.	2.1	1.3	250	0.8		5

*Adjacent Basin

MISOURI BASIN
DRAINAGE BASIN
AND
SNOW COURSE **

MISSOURI BASIN DRAINAGE BASIN AND SNOW COURSE **	No.	Elev.	Date of Survey 1952	Snow Depth (In.) 1952	Mar. 1 1952	Water Content (Inches)					Average on Apr. 1 1952	
						Past Records		1949	Average Data Mar. 1			
						1951	1950		Avg.	%Avg.		
MADISON RIVER												
Hebgen	11E5	6550	Feb. 27	55	18.5	9.1	9.6	14.0	10.6	175	12.1	153
West Yellowstone	11E7	6700	Feb. 26	54	16.5	11.8	11.7	14.4	10.0	165	11.2	147
21-Mile	11E6	7150	Feb. 26	73	25.3	14.2	17.1	20.5	13.6	186	16.5	154
*Big Springs	11E9	6500	Feb. 26	86	31.0	18.8	20.4	26.4	17.7	175	20.5	151
*Island Park	11E10	3600	Feb. 26	75	26.4	12.9	17.3	21.8	13.9	190	15.4	171
*Valley View	11E8	6500	Feb. 27	70	23.8	10.3	15.3	17.3	12.2	195	14.6	163
Norris Basin	10E2	7500										
GALLATIN RIVER												
Devil's Slide	10D4	8100	Mar. 1	66	20.5	14.8	12.9	18.1	15.0	138	19.8	104
Hood Meadow	10D3	6600	Mar. 1	41	10.3	6.6	4.3	8.4	6.4	160	8.4	123
Mystic Lake	10D2	6600										
New World	10D1	6700	Feb. 23	40	10.4	7.2	5.3	11.2	8.5	123	10.0	104
21-Mile	11E6	7150	Feb. 26	73	25.3	14.2	17.1	20.5	13.6	186	16.5	154
MISSOURI RIVER MAIN STEM												
Chessman Reservoir	12C5	6200	Mar. 1	23	5.7	3.1	3.4	7.1	4.3	133	4.6	124
Crystal Lake	9C1	6100	Mar. 2	53	14.4	7.5	5.3	15.1	10.0	140	12.0	120
Grasshopper	10C2	7000										
Kings Hill	10C1	7950	Feb. 26	47	14.1	9.9	12.0	15.1	10.2	138	13.2	107
Picnic Grounds	13C6	6500	Mar. 1	26	6.2	5.0	2.5	6.3	3.9	160	4.2	148
Pipestone Pass	12D1	7200	Feb. 29	30	4.9	5.3	1.8	6.8	4.1	120	5.7	86
Stemple Pass	12C1	6900	Feb. 28	47	12.0	9.1	8.2	12.1	8.0	150	9.5	126
Tenmile, Lower	12C2	6250	Mar. 2	31	7.2	6.6	5.4	8.1	5.6	129	6.4	113
Tenmile, Middle	12C3	6800	Mar. 3	40	10.1	9.7	8.4	11.2	8.2	124	10.3	98
Tenmile, Upper	12C4	8000	Mar. 3	45	12.9	12.9	10.6	13.2	10.5	122	13.2	98
(Teton River)												
Fright Creek	12A1	6000	Feb. 27	44	14.0	18.6	18.2	15.3	16.1	87	19.0	74
Waldron Creek	12B2	5600	Feb. 26	22	5.9	8.7	9.6	6.8	7.4	80	8.9	66
West Fork	12B1	6000	Feb. 26	35	11.4	19.6	16.8	16.6	15.7	73	19.8	58
* Adjacent Basin												

* Adjacent Basin

MONTANA SNOW SURVEYS MARCH 1, 1952

MISSOURI BASIN
DRAINAGE BASIN
AND
SNOW COURSE **

MISSOURI BASIN DRAINAGE BASIN AND SNOW COURSE **					Date of Survey 1952	Snow Depth (In.) 1952	Mar. 1 1952	Water Content (Inches)				Average on Apr. 1		Years
No.	Elev.				1951	1950	1949	Avg.	Mar. 1	%Avg.	Avg.	%Avg.		
(Sun River)														
12B8	5500	Feb. 25	32	10.1	10.0	10.5	9.0	9.1	111		11.6	87	5	
12B6	5400	Feb. 26	28	6.8	7.8	7.2	6.2	7.1	96		7.9	86	4	
12B9	5600	Feb. 25	24	6.5	7.7	7.8	6.9	7.5	87		9.0	72	5	
12B5	5300	Feb. 27	37	10.5	11.5	10.8	9.8	10.7	98		12.1	87	4	
12B7	7000	Feb. 28	46	11.2	11.9	13.2	11.2	8.5	132		10.0	112	19	
13B9	7300	Mar. 1	Not measured											
12B3	6800	Feb. 29	55	19.3	21.0	26.0	20.9	22.6	86		25.7	76	4	
12B4	5700	Feb. 29	45	14.3	16.4	17.6	14.4	16.1	89		17.8	81	4	
(Marias River)														
12B5	5250	Feb. 28	56	18.6	20.2	24.3	20.5	14.8	126		17.5	107	19	
(Milk River)														
9A1	5200	Mar. 1	30	6.6	2.9	3.5	4.4	4.6	143		5.5	120	12	
UPPER YELLOWSTONE														
Camp Senia														
9D1	7890	Feb. 29	58	16.2	14.0	14.1	13.4	13.2	123		16.5	98	7	
10E3	7750	Mar. 1	35	9.3	7.7	5.8	9.3	6.5	143		7.6	122	16	
10D7	7400	Mar. 2	42	11.7	7.1	7.5	11.4	8.1	145		9.8	120	14	
10D5	8400													
10D6	8000													
10E4	7850	Feb. 29	46	12.8	8.8	10.1	12.5	8.2	156		9.3	138	16	
9E1	8200													
Lodgepole, Wyoming														
Lupine	7300	Feb. 29	46	13.7	7.1	9.2	13.3	8.1	169		9.8	141	14	
*Lewis Lake Divide	7000	Feb. 26	122	45.8	42.2	45.4	47.3	38.1	121		51.8	89	34	
*Astor Creek	7700	Feb. 26	99	34.5	31.9	31.8	30.7	25.4	136		27.5	125	10	
*Tom Thumb Summit	7900	Feb. 26	74	25.5	21.0	24.5	23.3	22.1	115		25.0	102	5	
(Shields River)														
10C3	9200	Feb. 29	30	8.8	3.5	3.4	8.0	4.4	200		4.7	187	14	
Porcupine														

xxAll time high

* Adjacent Basin



MISSOURI BASIN
DRAINAGE BASIN
AND
SNOW COURSE **

MISSOURI BASIN DRAINAGE BASIN AND SNOW COURSE **	No.	Elev.	Date of Survey 1952	Snow Depth (In.) 1952	Mar. 1 1952	Water Content (Inches)			Average Data		Average on Apr. 1 %Avg.	Year	
						Past Records		Mar. 1 %Avg.	Avg.	Avg.			
						1951	1950						
LOWER YELLOWSTONE (Wind River - above Div. Dam)													
Brooks Lake #3 10F2		9200	Feb. 29	74	25.1	29.6	27.2	24.9	20.0	125	24.3	103	16
Burrroughs Creek 9F6		8800	Feb. 29	41	10.5	23.0	16.0	13.5	17.5	60	20.1	52	4
Du Noir 9F2		8750	Feb. 28	30	6.6	10.5	11.6	9.4	9.6	70	10.5	63	12
Geyser Creek 9F3		8500	Mar. 1	29	6.8	11.3	10.1	8.4	9.9	69	11.4	60	4
Little Warm 9F4		9500	Mar. 1	54	15.0	24.3	21.4	16.2	20.6	73	24.5	61	4
Sheridan 9F1		7500	Feb. 28	31	7.3	11.6	7.6	10.0	6.5	112	7.2	102	16
T-Cross Ranch 9F5		8000	Feb. 29	22	4.9	11.2	7.0	7.9	6.5	75	6.2	79	12
*Togwotee Pass 9F1		9600	Mar. 3	78	25.9	32.4	-	-	28.9	90	28.7	91	3
Dinwoodie 9F10		10000	Mar. 2	44	12.2	17.5	14.5	10.6	14.2	86	18.1	68	4
Dry Creek 9F9		9500	Mar. 2	27	5.9	8.6	9.0	5.9	7.8	76	10.1	58	4
Hobbs Park 9G2		10000	Feb. 25	60	19.7	16.4	23.7	19.7	19.9	99	23.8	83	4
Mosquito Park 9G3		9500	Feb. 25	34	7.9	5.8	9.8	10.0	7.3	108	9.1	87	9
St. Lawrence 9F11		9000	Feb. 27	30	8.1	4.5	7.8	8.7	6.1	133	8.0	101	9
Trout Creek 9G1		8400	Feb. 25	28	6.6	2.9	4.5	9.0	5.5	120	6.1	108	4
*Kendall 9F12		7900	Mar. 1	35	9.2	14.8	-	12.5	10.5	88	11.2	82	9
*Loomis Park 10F5		8500	Mar. 1	56	17.1	22.0	-	17.6	14.6	117	10.5	104	9
*Black Rock 10F3		8600	Mar. 3	65	19.8	25.8	-	-	22.6	88	21.6	92	9
*Yellow Jacket 10F5		6775											
POPO AGIE RIVER													
Blue Ridge 8G2		9500	Feb. 23	50	14.5	10.4	15.6	16.4	9.5	170	11.4	127	13
Grannier Meadows 8G4		9000	Feb. 23	56	16.6	13.5	17.4	16.3	11.2	148	12.3	135	16
Larsen Creek 9G4		9000	Mar. 1	38	9.5	15.7	17.3	13.1	15.4	62	18.4	52	4
Sawmill Glade 8G1		8500	Feb. 23	34	8.0	4.2	8.1	10.2	6.1	131	7.6	105	13
South Pass 8G3		9000	Feb. 23	54	16.8	13.8	18.0	15.9	11.1	151	13.9	121	13
MULLIGAN PARK 9G5		8900	Mar. 1	38	10.2	15.7	11.7	10.6	10.0	102	10.5	98	11
Dutch Joe 9C6		8700	Mar. 1	38	9.4	-	-	-	-	-	6.9	136	1
*Adjacent Basin													



MISSOURI BASIN
DRAINAGE BASIN
AND
SNOW COURSE **

MISSOURI BASIN DRAINAGE BASIN AND SNOW COURSE **	No.	Elev.	Date of Survey 1952	Snow Depth (In.) 1952	Mar. 1 1952	Water Content (Inches)				Year		
						Past Records		Average Data			Average on Apr. 1	
						1951	1950	1949	Avg.			%Avg.
<u>BIG HORN RIVER</u> (Wyoming)	9F8	8000	Mar.	31	5.8	8.1	7.7	6.9	7.1	82	8.6	67
	8F1	8700	Mar.	28	5.5	5.5	5.8	6.0	5.7	97	6.7	82
	9E2	9000	Mar.	42	5.5	5.8	4.1	7.5	5.7	97	5.6	99
	9E7	8000	Mar.	18	5.2	---	---	---	---	---	5.7	91
<u>SHOSHONE RIVER</u>	10E6	7000	Feb.	44	13.0	5.8	9.6	14.4	9.9	131	14.6	89
	10E5	7100	Feb.	47	14.5	15.0	14.5	15.7	13.1	111	14.3	102
<u>TONGUE RIVER</u>	7E4	7900	Mar.	37	10.3	11.2	---	---	---	---	---	---
	7E2	7700	Mar.	22	4.6	2.2	---	---	---	---	4.3	107
	7E5	9000	Mar.	26	5.6	4.4	---	---	5.1	110	6.6	85
<u>POWDER RIVER</u>	7E8	8500	Mar.	35	7.4	6.2	---	---	6.8	109	8.8	84
	7E6	8700	Mar.	19	3.6	4.1	---	---	3.8	95	5.2	70
<u>CHEYENNE RIVER</u> (South Dakota)	1 S. D.	6500	Feb.	30	8.4	2.0	2.8	9.4	5.1	168	6.6	130
Upper Spearfish												9



MONTANA SNOW SURVEYS MARCH 1, 1952

COLUMBIA BASIN DRAINAGE BASIN AND SNOW COURSE **	No.	Elev.	Date of Survey 1952	Snow Depth (In.) 1952	Mar. 1 1952	Water Content (Inches)					Average on Apr. 1 %Avg.	Years		
						Past Records		Average Data Mar. 1		Avg.			%Avg.	
						1951	1950	1949	Avg.					%Avg.
<u>KOOTENAI</u>														
Brush Creek	14A4	5000	Feb. 29	43	11.9	11.0	14.0	17.0	13.3	90	12.0	99	6	
Fernie	Canada	3500	Feb. 28	30	9.5	10.3	10.2	9.3	7.6	125	7.8	122	14	
New Fernie	Canada	4100	Feb. 27	46	13.9	14.3	--	--	--	--	--	--	2	
Fernie Ridge	Canada		Feb. 27	67	22.1	--	--	--	--	--	--	--	1	
Ferguson	Canada	3000	Feb. 29	48	15.5	--	--	--	--	--	19.5	80	1	
Kimberley	Canada	3800	Mar. 1	33	9.0	10.4	9.2	7.2	6.3	125	5.3	173	12	
Marble Canyon	Canada	5000	Feb. 29	48	13.6	22.6	14.9	12.0	14.9	92	15.0	91	6	
Nelson Creek	Canada	3050	Feb. 29	52	18.1	16.9	13.3	20.2	12.8	--	13.5	--	13	
Red Mt. Montana	15A1	6000	Feb. 29	56	16.7	19.9	20.2	18.7	15.7	106	18.4	91	16	
Sinclair Pass	Canada	4500	Feb. 29	24	5.6	9.3	6.0	3.7	5.4	104	4.9	114	7	
Smith Creek	16A1	4800												
Sullivan Mine	Canada	5100	Mar. 1	49	16.1	15.9	15.6	12.7	12.9	125	16.2	99	7	
Upper Elk River	Canada	4400	Mar. 1	28	6.4	10.3	9.6	8.0	9.1	71	9.5	68	5	
<u>BITTERROOT</u>														
Gibbons Pass	13D2	7100	Feb. 28	75	25.6	23.8	25.2	26.2	17.7	144	22.8	112	20	
<u>UPPER CLARK FORK</u>														
Coyote Hill	13B11	4200	Feb. 28	43	13.7	--	--	--	--	--	--	--	1	
Chessman Res.	12C5	6200	Mar. 1	23	5.7	3.1	3.4	7.1	4.3	133	4.6	124	17	
Intergaard	13C4	6450	Feb. 29	31	8.4	8.1	5.9	10.6	5.8	140	8.3	98	17	
North Fork Jocko	13B7	6330	Mar. 1	104	37.4	40.0	45.0	37.4	35.8	105	39.6	95	12	
Pipestone Pass	12D1	7200	Feb. 29	30	4.9	5.3	1.8	6.9	4.1	120	5.7	96	15	



MONTANA SNOW SURVEYS MARCH 1, 1952

COLUMBIA BASIN DRAINAGE BASIN AND SNOW COURSE **	No.	Elev.	Date of Survey 1952	Snow Depth (In.) 1952	Mar. 1 1952	Water Content (Inches)					y e a r s	
						Past Records		Average Data		Average on Apr. 1 %Avg.		
						1951	1950	1949	Mar. 1 Avg.			%Avg.
UPPER CLARK FORK (cont'd)												
Rainy Lake	13B6	4200	Feb. 28	50	14.5	4.3	13.6	14.3	10.3	11.9	122	6
Stemple Pass	13C1	6900	Feb. 28	47	12.0	9.1	8.2	12.1	8.0	9.5	126	19
Stuart Mill	13C6	6500	Feb. 29	31	7.4	6.2	5.5	8.9	4.9	6.7	110	17
Picnic Grounds	12C6	6500	Mar. 1	26	6.2	5.0	2.5	6.3	3.9	4.2	148	8
Southern Cross	13C5	6500	Feb. 29	34	9.1	5.5	2.6	6.4	4.3	5.0	181	17
Tennile, Lower	12C2	6250	Mar. 2	31	7.2	6.6	5.4	8.1	5.6	6.4	113	18
Tennile, Middle	12C3	6800	Mar. 3	40	10.1	9.7	8.4	11.2	8.2	10.3	98	19
Tennile, Upper	12C4	8000	Mar. 3	45	12.9	12.9	10.6	13.2	10.5	13.2	98	18
*Lookout	15B2	5250										
FLATHEAD RIVER												
Big Creek	13B3	6750	Mar. 4	114	40.4	37.6	38.7	35.0	34.9	40.1	101	12
Brush Creek	14A4	5000	Feb. 29	43	11.9	11.0	14.0	17.0	13.3	12.0	99	6
Desert Mountain	13A2	5600	Feb. 29	52	16.1	15.4	16.8	--	12.9	15.2	106	9
Hell Roaring Divide	14A3	5700	Feb. 29	83	28.6	26.7	--	--	30.4	29.5	97	3
Limestone Pass	13B8	7600	Mar. 1	95	31.1	40.8	48.8	40.5	39.2	48.9	64	5
Logan Creek	14A5	4300	Feb. 28	36	8.1	7.8	9.1	10.4	8.9	8.0	101	6
Marias Pass	13A5	5250	Feb. 28	56	18.6	20.2	24.3	20.5	14.8	17.5	107	19
North Fork Jocko	13B7	6330	Mar. 1	104	37.4	40.0	45.0	37.4	35.8	39.6	95	12
Rainy Lake	13B6	4300	Feb. 28	50	14.5	4.3	13.6	14.3	10.3	11.9	122	6
Spotted Bear Mt.	13B2	7000	Feb. 29	59	15.6	12.5	7.5	19.3	17.4	17.2	91	5
Trout Lake #2	13A12	3600	Mar. 4	55	17.3	23.7	20.7	14.4	19.6	20.4	85	4
Basin Creek	13B14	5000	Mar. 1	35	10.7	9.5	--	--	--	--	--	2
Holbrook	13B13	4530	Mar. 1	37	11.1	9.0	--	--	--	--	--	2
Quintonkon	13A13	3800	Mar. 4	53	17.8	12.9	--	--	--	--	--	2
Twin Creeks	13B11	3580	Feb. 28	41	12.7	10.7	--	--	11.7	--	--	2

*Adjacent Basin



Federal - State - Private
COOPERATIVE SNOW SURVEYS

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water supply for irrigation,
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generation, navigation,
mining and industry

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"WATER IS THE WEST'S GREATEST RESOURCE"

